Kathan Ashishkumar Shah

+1 (780) 225-9348 | shahkathan1010@gmail.com | LinkedIn: kathan-shah-b58602285 | GitHub: kathan-205

Education

University of Alberta — Edmonton, AB
Bachelor of Science, Honors in Computing Science — *September 2023 – April 2027*
- Relevant Coursework: Data Structures and Algorithms, Databases, Introduction to Software Engineering

Professional Experience

Software Developer Intern — October 2025 – Present
WebBrain Technologies — *Remote*
- **Developed** cross-platform Flutter applications with RESTful API and Firebase integration, building payment processing, push notifications, and analytics features that support **5,000+ active users** with **99.8% uptime**
- **Optimized** application performance using Clean Architecture and BLoC state management across **25+ screens**, cutting load times by **45%** via lazy loading while reducing Firestore query response from **800ms to 320ms** through compound indexing
- **Contributed** to Agile development cycles alongside designers and product managers, shipping **12+ features** ahead of target dates with **92% test coverage**, participating in code reviews and presenting technical updates biweekly

Undergraduate Teaching Assistant — January 2026 – April 2026
University of Alberta — *Edmonton, AB*
- Selected to support CMPUT 175 (Foundations of Computation II) instruction for **100+ students**, covering object-oriented programming, functional programming, abstract data types, and algorithm analysis
- Mentor students on search and sort algorithm implementation, complexity analysis, and Python debugging while ensuring inquiry responses within **24 hours** during weekly office hours

Projects

Hands-Free Web Navigator | *1st Place, HackED 2025*
- **Created** Chrome extension for head-movement cursor control using **face-api.js**, achieving **sub-100ms response time** for real-time accessibility on standard laptops
- **Enhanced** user experience with calibration system and visual cues, improving first-time navigation success by **35%** during testing

Feelink: Location-Based Android Mood Sharing Application | *Java, Firebase, Google Maps API*
- **Built** location-aware Android app with emoji mood sharing, incorporating Google Maps API for **500+ geotagged locations**, Firebase Realtime Database chat with **sub-1-second latency**, and offline sync capabilities
- **Implemented** MVC architecture spanning **15+ activities** with Firebase Authentication, Firestore managing **500+ entries**, RecyclerView optimizations for **200+ posts**, and image compression to **65KB**
- **Completed 54 user stories** and resolved **136 issues** through GitHub Actions CI/CD, Scrum methodology, UML diagrams, and pair programming with JUnit, Mockito, and instrumentation testing achieving **85% coverage**

Ray Tracer 3D Renderer | *C, Dynamic Memory Management*
- **Programmed** 3D ray tracer producing **640x480 pixel** photorealistic renders with Phong shading, shadows, and **9-sample anti-aliasing**, reaching **90%+ accuracy** through low-level C and file I/O
- **Executed** ray-sphere intersection calculations and lighting pipeline for **50+ objects** using dynamic memory allocation and custom vector structures
- **Designed** modular codebase with vector operations, qSort color indexing for **5+ HEX values**, and Makefile build automation verified leak-free via Valgrind

Technical Skills

Languages: Python, Java, C, R, SQL
Database: SQLite, MongoDB
Frameworks and Libraries: Pandas, NumPy, Scikit-learn, face-api.js, RESTful APIs
Developer Tools: Git, GitHub, GitLab CI/CD, VS Code, Android Studio, Linux, Google Cloud, Microsoft Azure
Development Practices: Agile Development, Software Development Life Cycle (SDLC), CRUD Operations, MVC Pattern